Contents

Volume 48 Number 1 January 2005

1 **Effects of shift schedules on fatigue and physiological functions among firefighters during night duty**
H. Takeyama, T. Itani, N. Tachi, O. Sakamura, K. Murata, T. Inoue, T. Takanishi, H. Suzumura and S. Niwa

12 **Validity of self-assessed reports of occurrence and duration of occupational tasks**
J. Unge, G.-Å. Hansson, K. Ohlsson, C. Nordander, A. Axmon, J. Winkel and S. Skerfving

25 **Office noise and employee concentration: Identifying causes of disruption and potential improvements**
S. P. Banbury and D. C. Berry

38 **Effects of different task factors on speed and preferences in Chinese handwriting**
A. H. S. Chan and P. S. K. Lee

55 **Selected hormonal and immunological responses to strenuous live-fire firefighting drills**
D. L. Smith, S. J. Petruzzello, M. A. Chludzinski, J. J. Reed and J. A. Woods

66 **Digital vibration threshold testing and ergonomic stressors in automobile manufacturing workers: a cross-sectional assessment**
J. E. Gold, L. Punnett, M. Cherniack and D. H. Wegman

78 **Snap-on-handles for a non-powered hacksaw: An ergonomics evaluation, redesign and testing**
B. Das, P. Jongkol and S. Ngui

98 **Book review**

100 **IEA Newsletter**

Volume 48 Number 2 February 2005

109 **A contextual study of police car telematics: the future of in-car information systems**
P. Hampton and M. Langham

119 **The effect of office concepts on worker health and performance: a systematic review of the literature**
E. M. de Croon, J. K. Sluiter, P. P. F. M. Kuijer and M. H. W. Frings-Dresen

135 **Injury-induced kinematic compensations within the lower back: impact of non-lower back injuries**
K. G. Davis and H. Seol

150 **Study of the effectiveness of a participatory ergonomics intervention in reducing worker pain severity through physical exposure pathways**
A. C. Laing, M. B. Frazer, D. C. Cole, M. S. Kerr, R. P. Wells and R. W. Norman

171 **Wrist discomfort levels for combined movements at constant force and repetition rate**
E. J. Carey and T. J. Gallwey

187 **Effectiveness of overhead lifting devices in reducing the risk of injury to care staff in extended care facilities**
C. Engst, R. Chhokar, A. Miller, R. B. Tate and A. Yassi

200 **Technical note: Personal and psychosocial variables in workers with a previous history of LBP: 16-month follow-up**
S. McGill and S. Brown

207 **Obituary – Stanley Lewis**

209 **Obituary – John G. Fox**

212 **Book reviews**

Volume 48 Number 3 22 February 2005

219 **Effects of low back disability status on lower back discomfort during sustained and cyclical trunk flexion**
W. Monroe Keyserling, S. P. Sudarsan, B. J. Martin, A. J. Haig and T. J. Armstrong

234 **Perceptions of temperature, moisture and comfort in clothing during environmental transients**
Y. Li

249 **Standing, sitting and associated working conditions in the Quebec population in 1998**
F. Tissot, K. Messing and S. Stock

270 **Comparing endoscopic systems on two simulated tasks**
Willem B. Verwey, Simone Stroomer, Robin Lammens, Sandra N. Schulz and Walter H. Ehrenstein

288 **Estimation of hand force in ergonomic job evaluations**
Stephen Bao and Barbara Silverstein

302 **Presenting directions with a vibrotactile torso display**
Jan B. F. Van Erp

314 **Book reviews**

318 **IEA Newsletter**

Volume 48 Number 4 15 March 2005

323 **Anthropometric criteria for the design of tractor cabs and protection frames**
H. Hsiao, J. Whitestone, B. Bradtmiller, R. Whisler, J. Zwiener, C. Lafferty, T. Y. Kau and M. Gross

354 **Composite scales of morningness and preferences: Preliminary validity data in Peruvian undergraduates**
J. F. Díaz-Morales and M. P. Sánchez-López

364 **The effect of asymmetry on psychophysical lifting capacity for three lifting types**
B. Han, T. J. Stobbe and G. R. Hobbs, Jr.

380 **Modulation of mechanical and muscular load by footwear during catering**
U. G. Kersting, L. Janshen, H. Böhm, G. M. Morey-Klapsing and G.-P. Brüggemann

399 **Effect of button location on driver's visual behaviour and safety perception**
T. Dukic, L. Hanson, K. Holmqvist and C. Wartenberg

411 **Effects of antagonistic co-contraction on differences between electromyography based and optimization based estimates of spinal forces**
J. H. van Dieën and I. Kingma

427 **Book reviews**

Volume 48 Number 5 15 April 2005

Selected papers from the IEA Conference, Seoul, Korea, August, 2003: Ergonomics in the digital age

433 **XVth Triennial Congress of the International Ergonomics Association and 7th Joint Conference of the Ergonomics Society of Korea/Japan Ergonomics Society: Ergonomics in the digital age**
Kenneth R. Laughery and Min K. Chung

436 **Ergonomics and human factors: the paradigms for science, engineering, design, technology and management of human-compatible systems**
W. Karwowski

464 **The future of research in understanding and controlling work-related low back disorders**
W. S. Marras

478 **Improving digital human modelling for proactive ergonomics in design**
D. B. Chaffin

492 **Quantitative postural load assessment for whole body manual tasks based on perceived discomfort**
Min K. Chung, I. Lee and Dohyung Kee

506 **Optimizing the interaction of children with information and communication technologies**
L. Straker and C. Pollock

522 **Providing cognitive support with technology-based warning systems**
M. S. Wogalter and C. B. Mayhorn

534 **From industrial safety to corporate health management**
K. J. Zink

547 **Ergonomics in total quality management: How can we sell ergonomics to management?**
K. S. Lee

559 **Enhancing the impact of ergonomics interventions**
E. A. P. Koningsveld, J. Dul, G. W. Van Rhijn and P. Vink

581 **Ergonomics support for local initiative in improving safety and health at work: International Labour Organization experiences in industrially developing countries**
T. Kawakami and K. Kogi

Volume 48 Number 6 15 May 2005

591 **Postural perturbation and muscular response following sudden release during symmetric squat and stoop lifting**
D. H. K. Chow, I. Y. W. Cheng, A. D. Holmes and J. H. Evans

608 **Unobtrusive vehicle motion prediction cues reduced simulator sickness during passive travel in a driving simulator**
J. J.-W. Lin, D. E. Parker, M. Lahav and T. A. Furness

625 **3D foot shape generation from 2D information**
A. Luximon, R. S. Goonetilleke and M. Zhang

642 **The effect of backpack load on the gait of normal adolescent girls**
D. H. K. Chow, M. L. Y. Kwok, A. C. K. Au-Yang, A. D. Holmes, J. C. Y. Cheng, F. Y. D. Yao and M. S. Wong

657 **The influence of occupation on lumbar sagittal motion and posture**
S. Milosavljevic, P. D. Milburn and B. W. Knox

668 **Complete recovery time after exhaustion in high-intensity work**
H.-C. Wu, W.-H. Hsu and T. Chen

680 **Good vibrations: Do electrical therapeutic massagers work?**
D. McDonagh, L. Wilson, C. Haslam and D. Weightman

692 **Identifying predictors of comfort and discomfort in using hand tools**
L. F. M. Kuijt-Evers, J. Twisk, L. Groenesteijn, M. P. de Looze and P. Vink

703 **Forearm torque strengths and discomfort profiles in pronation and supination**
L. W. O'Sullivan and T. J. Gallwey

722 **Forward/up directional incompatibilities during cursor placement within graphical user interfaces**
J. G. Phillips, T. J. Triggs and J. W. Meehan

736 **Book reviews**

Volume 48 Number 7 10 June 2005

749 **Effects of an electric blanket on sleep stages and body temperature in young men**
K. Okamoto-Mizuno, K. Tsuzuki, Y. Ohshiro and K. Mizuno

758 **Prospective issues for error detection**
A. Blavier, E. Rouy, A.-S. Nyssen and V. De Keyser

782 **A study of lifting tasks performed on laterally slanted ground surfaces**
Z. Jiang, G. Shin, J. Freeman, S. Reid and G. A. Mirka

796 **Designing a licence plate for memorability**
J. M. Schraagen and K. Van Dongen

807 **Short-term changes in upper extremity dynamic mechanical response parameters following power hand tool use**
M. E. Sesto, R. G. Radwin and T. G. Richard

821 **A light-weight cooling vest enhances performance of athletes in the heat**
J. Webster, E. J. Holland, G. Sleivert, R. M. Laing and B. E. Niven

838 **Effects of an ontology display with history representation on organizational memory information systems**
W. Hwang and G. Salvendy

859 **Effect of cycle time and duty cycle on psychophysically determined acceptable levels in a highly repetitive task**
A. Moore and R. Wells

874 **Surface exploration using laparoscopic surgical instruments: The perception of surface roughness**
R. Brydges, H. Carnahan and A. Dubrowski

895 **Sensitivity for pressure difference on the ischial tuberosity**
R. H. M. Goossens, R. Teeuw and C. J. Snijders

903 **Book reviews**

Volume 48 Number 8 22 June 2005

907 **Evaluating the effectiveness of a participatory ergonomics approach in reducing the risk and severity of injuries from manual handling**
P. J. W. Carrivick, A. H. Lee, K. K. W. Yau and M. R. Stevenson

915 **Transfer of the horizontal patient: The effect of a friction reducing assistive device on low back mechanics**
S. M. McGill and N. S. Kavcic

930 **Decrease of force capabilities as an index of upper limb fatigue**
D. Roman-Liu, T. Tokarski and R. Kowalewski

949 **The effect of pallet distance on torso kinematics and low back disorder risk**
M. J. Jorgensen, A. Handa, P. Veluswamy and M. Bhatt

964 **The development of a multidimensional scale to evaluate motor vehicle dynamic qualities**
D. Harris, J. Chan-Pensley and S. McGarry

983 **Comparison of measurement methods for quantifying hand force**
E. Koppelaar and Richard Wells

1008 **Investigating slips, trips and falls in the New Zealand dairy farming sector**
T. Bentley, D. Tappin, D. Moore, S. Legg, L. Ashby and R. Parker

1020 **Scaling of lifting forces in relation to object size in whole body lifting**
I. Kingma, J. H. Van Dieën and H. M. Toussaint

1031 **Load spatial pathway and spine loading: how does lift origin and destination influence low back response?**
K. Davies and W. Marras

1047 **A comparison of foot/ground interaction during stair negotiation and level walking in young and older women**
K. A. Hamel, N. Okita, S. A. Bus and P. R. Cavanagh

1057 **Book reviews**

Volume 48 Number 9 15 July 2005

1065 **Postural control and detection of slip/fall initiation in the elderly population**
B. J. Kim and Charles J. Robinson

1086 **Psychological impact of air velocity variations in a ventilated room**
H. Wigö and I. Knez

1097 **Validating task analysis for error identification: reliability and validity of a human error prediction technique**
N. A. Stanton and C. Baber

1114 **Visual effects of the luminance surrounding a computer display**
J. E. Sheedy, R. Smith and J. Hayes

1129 **Multimodal feedback for the acquisition of small targets**
A. Cockburn and S. Brewster

1151 **Toward development of a computer-based methodology for evaluating and reducing medication administration errors**
A. Boone Seals and V. G. Duffy

1169 **Available friction of ladder shoes and slip potential for climbing on a straight ladder**
W.-R. Chang, C.-C. Chang and S. Matz

1183 **Reducing whole-body vibration and musculoskeletal injury with a new car seat design**
M. Makhsous, R. Hendrix, Z. Crowther, E. Nam and F. Lin

1200 **Reliable exposure assessment strategies for physical ergonomics stressors in construction and other non-routinized work**
V. Paquet, L. Punnett, S. Woskie and B. Buchholz

1220 **Book Reviews**

Volume 48 Number 10 15 August 2005

1223 **Human responses to augmented virtual scaffolding models**
H. Hsiao, P. Simeonov, B. Dotson, D. Ammons, T.-Y. Kau and S. Chiou

1243 **The development and validation of equations to predict grip force in the workplace: contributions of muscle activity and posture**
P. J. Keir and J. P. M. Mogk

1260 **Job and organizational determinants of nursing home employee commitment, job satisfaction and intent to turnover**
B. Karsh, B. C. Booske and F. Sainfort

1282 **Shiftwork experience, age and cognitive performance**
I. Rouch, P. Wild, D. Ansiau and J.-C. Marquié

1294 **Driver behaviour with adaptive cruise control**
N. A. Stanton and M. S. Young

1314 **Effect of concrete block weight and wall height on electromyographic activity and heart rate of masons**
D. Anton, J. C. Rosecrance, F. Gerr, L. A. Merlino and T. M. Cook

1331 **Book Reviews**

Volume 48 Numbers 11–14 15 September–15 November 2005

1333 **Guest Editorial**
Ergonomics in sport and leisure revisited
K. George and T. Reilly

1334 **Ageing and activity: their effects on the functional reserve capacities of the heart and vascular smooth and skeletal muscles**
D. F. Goldspink

1352 **Changes in plasma lipids and lipoproteins following 10-days of prolonged walking: influence of age and relationship to physical activity level**
P. N. Ainslie, T. Reilly, D. P. M. Maclaren and I. T. Campbell

1365 **Aerobic and anaerobic profiles, heart rate and match analysis in older soccer players**
A. Tessitore, R. Meeusen, M. Tiberi, C. Cortis, R. Pagano and L. Capranica

1378 **The impact of aerobic training upon left ventricular morphology and function in pre-pubescent children**
K. P. George, P. E. Gates and K. Tolfrey

1390 **Exercise referral: the public health panacea for physical activity promotion? A critical perspective of exercise referral schemes; their development and evaluation**
L. Dugdill, R. C. Graham and F. McNair

1411 **Health professionals' perspectives in exercise referral: implications for the referral process**
R. C. Graham, L. Dugdill and N. T. Cable

1423 **Acute cardio-respiratory changes induced by hyperpnoea using a respiratory muscle trainer**
L. Passfield, T. Dobbins, S. Myers, M. Reilly and E. M. Williams

1433 **Cross-sectional analysis of BMI and some lifestyle variables in Flemish vegetarians compared with non-vegetarians**
K. Alewaeters, P. Clarys, M. Hebbelinck, P. Deriemaeker and J. P. Clarys

1445 **Cadaver studies and their impact on the understanding of human adiposity**
J. P. Clarys, S. Provyn and M. J. Marfell-Jones

1462 **The regional placement of bone mineral mass, fat mass, and lean soft tissue mass in young adult Rugby Union players**
W. Bell, W. D. Evans, D. M. Cobner and R. G. Eston

1473 **Gender differences in the circadian variations in muscle strength assessed with and without superimposed electrical twitches**
M. Giacomoni, B. Edwards and E. Bambaeichi

1488 **Effect of time of day on the accuracy and consistency of the badminton serve**
B. J. Edwards, K. Lindsay and J. Waterhouse

1499 **The influence of time of day and partial sleep loss on muscle strength in eumenorrheic females**
E. Bambaeichi, T. Reilly, N. T. Cable and M. Giacomoni

1512 **Effects of daytime ingestion of melatonin on short-term athletic performance**
G. Atkinson, H. Jones, B. J. Edwards and J. M. Waterhouse

1523 **Effect of five nights of normobaric hypoxia on cardiovascular responses to acute isocapnic hypoxia in humans: relationship to ventilatory chemosensitivity**
P. N. Ainslie, J. C. Kolb, K. Ide and M. J. Poulin

1535 **The effects of intermittent hypoxic training on aerobic and anaerobic performance**
J. P. Morton and N. T. Cable

1547 **Exercise thermoregulation and hyperprolactinaemia**
D. Low, T. Cable and A. Purvis

1558 **The influence of environmental temperature on duathlon performance**
S. A. Sparks, N. T. Cable, D. A. Doran and D. P. M. Maclaren

1568 **A comparison of muscle strength and flexibility between the preferred and non-preferred leg in English soccer players**
N. Rahnama, A. Lees and E. Bambaeichi

1576 **Changes in the force development characteristics of muscle following repeated maximum force and power exercise**
G. Gilbert and A. Lees

1585 **The effect of weightlifting upon left ventricular function and markers of cardiomyocyte damage**
C. Stephenson, J. McCarthy, E. Vikelis, R. Shave, G. Whyte, D. Gaze and K. George

1594 **A biomechanical analysis of good and poor performers of the vertical jump**
A. Vanezis and A. Lees

1604 **An electromyographic investigation of abdominal exercises and the effects of fatigue**
M. Robinson, A. Lees and G. Barton

1613 **Repeatability of stature measurements in individuals with and without chronic low-back pain**
E. L. Healey, N. E. Fowler, A. M. Burden and I. M. McEwan

1623 **High-speed non-invasive measurement of tibial rotation during the impact phase of running**
C. J. Digby, M. J. Lake and A. Lees

1638 **Measurement of three-dimensional intra-articular kinematics: methodological and interpretation problems**
J.-P. Baeyens, E. Cattrysse, P. Van Roy and J.-P. Clarys

1645 **Arthro-kinematics of the elbow: study of the carrying angle**
P. Van Roy, J. P. Baeyens, D. Fauvart, R. Lanssiers and J. P. Clarijs

1657 **Intra-articular kinematics of the upper limb joints: a six degrees of freedom study of coupled motions**
E. Cattrysse, J.-P. Baeyens, P. Van Roy, O. Van De Wiele, T. Roosens and J.-P. Clarys

1672 **Changes in coordination, control and outcome as a result of extended practice on a novel motor skill**
N. J. Hodges, S. Hayes, R. R. Horn and A. M. Williams

1686 **Anticipation and visual search behaviour in expert soccer goalkeepers**
G. J. P. Savelsbergh, J. Van Der Kamp, A. M. Williams and P. Ward

1698 **A multi-dimensional assessment of soccer coaching course effectiveness**
J. Hammond and J. Perry

1711 **Towards the reflective sports coach: issues of context, education and application**
Z. Knowles, A. Borrie and H. Telfer

Volume 48 Number 15 15 December 2005

1721 **Characteristics of job rotation in the Midwest US manufacturing sector**
M. Jorgensen, K. Davis, S. Kotowski, P. Aedla and K. Dunning

1749 **Interfering effects of the task demands of grip force and mental processing on isometric shoulder strength and muscle activity**
C. W. MacDonell and P. J. Keir

1734 **Evaluating the effects of bilingual traffic signs on driver performance and safety**
S. L. Jamson, F. N. Tate and A. H. Jamson

1770 **Longitudinal changes in critical flicker fusion frequency: an indicator of human workload**
A. Łuczak and A. Sobolewski

1793 **Effects of negatively sloped keyboard wedges on risk factors for upper extremity work-related musculoskeletal disorders and user performance**
M. Woods and K. Babski-Reeves